Docket No.: GR 98 P 5938

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MAIL STOP: APPEAL BRIEF-PATENTS

By: Loren D. Pearson Date: December 1, 2003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Applic. No.	:	09/441,535
Inventor	:	Karl Klaghofer et al.
Filed	:	November 16, 1999
TC/A.U.	:	2665
Examiner	:	Steven H. Nguyen
Docket No.	:	GR 98 P 5938
Customer No.	:	24131

Hon. Commissioner for Patents
Alexandria, VA 22313-1450

BRIEF ON APPEAL

S i r :

This is an appeal from the final rejection in the Office action dated May 28, 2003, finally rejecting claims 1-4.

Appellants submit this *Brief on Appeal* in triplicate, including payment in the amount of $330.00 to cover the fee for filing the *Brief on Appeal*.

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Real Party in Interest:

This application is assigned to Siemens Aktiengesellschaft of München, Germany. The assignment will be submitted for recordation upon the termination of this appeal.

Related Appeals and Interferences:

No related appeals or interference proceedings are currently pending which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims:

Claims 1-4 are rejected and are under appeal. No claims were cancelled.

Status of Amendments:

No claims were amended after the final Office action. A Response under 37 CFR § 1.116 was filed on August 28, 2003. The Primary Examiner stated in an *Advisory Action* dated October 2, 2003, that the request for reconsideration had been considered but did not place the application in condition for allowance.

Summary of the Invention:

As stated in the first paragraph on page 1 of the specification of the instant application, the invention

relates to a multimedia terminal for telephony allowing multipoint connections to a plurality of other terminals.

Appellants explained on page 11 of the specification, line 21, that, referring now to the figures of the drawings in detail and first, particularly, to Fig. 1 thereof, there is shown an exemplary embodiment of a multimedia terminal MM-terminal according to the invention in a schematic block diagram in the form of its expanded protocol layer model. As is usual in networks based on ITU-T H.323, the communication of the terminal MM-terminal is based on the Internet protocol IP. Taking the Internet protocol IP as a basis, the right-hand side of Fig. 1 shows the protocol stack for the signaling, which handles the call control.

It is outlined on page 12 of the specification, line 6, that, in this case, on the basis of the Internet protocol IP and the signaling protocol TCP, a function module H.225.0 based on the ITU-T Protocol H.225.0 is provided for a basic call control signaling in H.323 networks. Exemplary messages for this function module H.225.0 are SETUP or CONNECT.

It is further outlined on page 12 of the specification, line 12, that, also, on the basis of the signaling protocol TCP, there is a function module H.245 based on the ITU-T Control

Protocol H.245. This function module H.245 is used, among other things, for exchanging "TerminalCapability" messages, that is to say for submitting and receiving information regarding terminal capabilities. This function module H.245 is also used for defining task distributions such as master and slave functions and for opening and closing logical channels used for useful data transmissions. The function module H.245 is also responsible for messages such as "MultipointConference", "CommunicationModeCommand" or "EnableDecentralizedConference" in a network based on ITU-T H.323. These messages are necessary for the above-described methods for producing a multipoint conference and are optionally usable in a multimedia terminal according to the invention.

Appellants stated on page 13 of the specification, line 2, that, on top of the function module H.225.0, there are function modules of additional facility controllers or features controls, such as, according to the invention, the function module "CONTROL CONFERENCE", which corresponds to a controller or control for processing a signaling for point-to-multipoint connections within the context of the invention. As further function modules of additional facility controllers or feature controls, Fig. 1 shows, by way of example, a function module H.450 "HOLD" for producing or implementing a "HOLD"

function based on ITU-T H.450, and a further function module H.450 having further variants, indicated by dots, based on the ITU-T Standard H.450.

It is also stated on page 13 of the specification, line 15, that Fig. 1 shows, on the left next to the signaling stack described above, a useful data stack. This useful data stack is also based on the Internet protocol IP, on which there is UDP and on that, in turn, a real-time protocol RTP. In addition to the real-time protocol RTP, the protocol UDP also supports a real-time control protocol RTCP and that part H.225:0 RAS of the control protocol according to ITU-T H.225.0 which concerns the areas of registration, administration, and status.

It is outlined in the last paragraph on page 13 of the specification, that, on the basis of the real-time protocol RTP, there are codecs or at least decoders for audio and video, which are denoted by AUDIO, VIDEO in Fig. 1. Such audio codecs AUDIO are configured according to one of the ITU-T Standards G.711, G.723.1, or G.728, for example. Audio decoders AUDIO are for example also defined by ISO MPEG4 standards. ISO MPEG4 also defines corresponding video decoders VIDEO. When decoders based on ISO MPEG4 are used, proprietary

coders are possibly contained in a multimedia terminal MM-TERMINAL according to the invention.

Appellants explained on page 14 of the specification, line 9, that, the real-time control protocol RTCP and the codecs or decoders for audio and video AUDIO, VIDEO are controlled by a media controller MEDIA CONTROL which, among other things, is responsible for the interaction of media input devices INPUT-DEVICE and media output devices OUTPUT-DEVICE provided in the multimedia terminal MM-TERMINAL. In this respect, media input devices INPUT-DEVICE are, for example, cameras for video data, microphones for audio data or interfaces for data sources not included in the multimedia terminal MM-TERMINAL. In this context, output devices OUTPUT-DEVICE are, for example, a screen for video data, loudspeakers for audio data or interfaces for output devices not included contained in the multimedia terminal MM-TERMINAL, such as printers or bulk memories.

Appellants further explained on page 14 of the specification, line 24, that the media controller MEDIA CONTROL also controls a device for mixing datastreams originating from terminals involved in a multipoint connection and for providing datastream mixtures to these terminals. Such a mixing device,

whose manner of operation has been described above, is illustrated in Fig. 1 by the reference symbol MIXER.

It is described on page 15 of the specification, line 5, that the described stack for useful data handling RTP, RTCP, H.225.0, AUDIO, VIDEO, and MEDIA CONTROL and the described stack for a signaling handling H.245, H.225.0, CONTROL CONFERENCE, H.450Hold, and H.450 are coupled to an application programming interface API via a coordination function COORDINATION FUNCTION. In this case, the coordination function COORDINATION FUNCTION coordinates the interaction of the units in this stack with the application programming interface API.

If is further described on page 15 of the specification, line 14, that examples of an application programming interface API are TAPI or CAPI. The application programming interface API serves as an interface between application programs or a user interface and the coordination function COORDINATION FUNCTION.

It is outlined in the last paragraph on page 15 of the specification, line 19, that, in the initial state shown in Fig. 2, there is an active connection between the terminals TeA and TeB of two subscribers A and B. In this case, at least the terminal TeA is a multimedia terminal MM-TERMINAL, as shown in Fig. 1, to the extent that a function module CONTROL

CONFERENCE is provided as a controller for a processing signaling for point-to-multipoint connections and a device MIXER for mixing datastreams originating from terminals involved in a multipoint connection.

Appellants stated on page 16 of the specification, line 4, that the subscriber A sends a Setup message based on ITU-T H.323 from the terminal TeA to a terminal TeC of a subscriber C. In this case, as shown in Fig. 2, a facility message or feature message FAC(HoldNotification.inv) can optionally be transmitted from the terminal TeA of subscriber A to the terminal TeB of subscriber B in order to put the terminal TeB into the "hold" state.

Appellants further stated on page 16 of the specification, line 12, that the terminal TeC uses a Connect message to acknowledge to the terminal TeA the Setup message previously received from the latter. A consultation connection in the form of logical channels is then set up between the terminals TeA and TeC. If the subscriber A associated with the terminal TeA wants a conference circuit at this instant, the terminal TeA transmits a facility message FAC(ConferenceIndication.inv) to each of the terminals TeB and TeC in order to indicate that a conference configuration is being called or selected. If, before a Setup message was transmitted to the terminal TeC,

the terminal TeA had transmitted a message FAC(HoldNotific.inv) to the terminal TeB, the terminal TeB can be put back again into an active state from the "hold" state by a message FAC (RetrieveNotific.inv) received from the terminal TeA. The logical channels between the terminals TeA, TeB, and TeC, which were already open before the conference was started, continue to be used.

References Cited:

U.S. Patent No. 5,689,553 (Ahuja et al.), dated November 18, 1997;

U.S. Patent No. 6,163,531 (Kumar), dated December 19, 2000.

Issues:

1. Whether or not claims 1 and 3 are anticipated by Kumar (U.S. 6,163,531) under 35 U.S.C. §102(e).

2. Whether or not claims 2 and 4 are patentable over Kumar in view of Ahuja et al. (U.S. 5,689,553) under 35 U.S.C. §103(a).

Grouping of Claims:

Claims 1 and 3 are independent. Claim 3 includes all of the patentable features of claim 1. Claims 2 and 4 depend on claims 1 and 3, respectively. The patentability of claims 1-4

are all argued jointly. Therefore, claims 2-4 stand or fall with claim 1.

Arguments:

The rejection of claims 1-4 maintained in the Advisory Action dated October 2, 2003, should be reversed.

Before discussing the prior art in detail, a brief review of the invention as claimed is provided. Claim 1 calls for, *inter alia*, a multimedia terminal having the following features:

> a controller for processing signaling information for a point-to-multipoint connection between the multimedia terminal and a plurality of terminals; and
>
> a mixer, connected to said controller, for mixing datastreams originating at the multimedia terminal and at the plurality of terminals and for providing datastream mixtures to the plurality of terminals. (Emphasis added by Applicants.)

The object of the instant application is to provide a multimedia end device for the realization of H.323 multipoint connections. According to the invention, the multimedia end device includes a controller for signal processing for point-to-multipoint connections as well as a mixer for mixing the data streams start from the conference participants (including

the multimedia end device itself) and for distributing data stream mixtures to the conference participants.

In contrast, in common H.323 conference systems, a central conference control device (MCU: multipoint control unit) controls the conference signals and mixes and distributes the data streams of the conference participants. The central conference control device should not be confused with an end device.

In the advisory action, the Examiner maintained the rejection and relied on Fig. 2A of Kumar. More specifically, the Examiner stated Kumar taught, in Fig. 2A, a terminal 218 including a multipoint controller (MC) 220 for mixing the signals for transmitting to the terminals via point to multipoint transmission; *see* col. 3, line 5, to col. 4, line 25.

However, the Examiner's analysis overstated the prior art. The embodiment shown in Fig. 2A of Kumar discloses a terminal 218 that contains only a multipoint controller (MC) 220 and not a complete multipoint control unit (MCU). However, a MC does not contain a multipoint processor (MP) that would be able to mix different audio streams and provide the mixture to other terminals. According to Kumar, a MP may be contained

within a MCU but not within a MC; *see* col. 3, lines 29-34. However, a MCU is, by definition (col. 3, lines 8-30), a standalone unit and, therefore, is not located within a terminal. Accordingly, as further discussed below, Kumar does not teach a mixer for mixing data streams and for sending the mixtures to the other terminals of the multipoint connection.

In addition, the Board should note that the Audio mixing mentioned in Kumar, col. 4, lines 12-13, is not performed by a MP (or MC) but rather by the terminal itself in order to present the mixture (i.e. composite audio signal) of the signals <u>received</u> from the other terminals <u>to the user of that mixing terminal</u>. Hence, that text passage does not disclose that the mixture is <u>sent</u> to the other terminals of the multipoint connection.

Thus, an essential advantage of the invention thus is that no such central MCU is necessary. Furthermore, the integration of the signal processing and mixing functionality in an end device according to the invention allows for a more flexible conference set-up from this end device. Connections to several end devices, for example, can be set-up parallel from the end device according to the invention. Furthermore, due to its mixing function, the end device according to the

invention also integrates the use of non-multipoint end devices in a conference circuit.

As stated previously, Kumar describes a conference system that, contrary to the object of the instant application, requires a central MCU or a central multipoint controller (MC). The MCU 126 disclosed in Kumar is thereby not to be confused with an end device. In col. 3, lines 27 to 30, of Kumar it is even explicitly defined that an MCU is a stand-alone unit that is disposed outside of an end device. Therefore, the identification of an MCU in an end device as made by the Examiner cannot be maintained. Even though an MC might be disposed in an end device (*see* col. 3, line 27), the MC does not contain a multipoint processor (MP) (*see* col. 3, lines 30 to 34) that could mix media streams (see col. 4, lines 19-21). Kumar only discloses that such an MP may be present in an MCU together with an MC; *see* col. 3, line 31. However, in Kumar col. 3, lines 27-30, an MCU is disclosed exclusively as a stand-alone unit disposed outside of an end device. It follows that an MP in Kumar is exclusively provided for the purpose of mixing and distributing media streams outside of the end devices.

Kumar does not teach a mixer in an end device for mixing the data streams that starts from the conference participants and

distributes data stream mixtures to the conference participants. This holds true particularly for the embodiments illustrated in Figs. 2A and 2B of Kumar.

In the embodiment according to Fig. 2A based on MC, the transmitting conference participants transmit the audio data streams via multicasting to the other conference participants (*see* col. 3, line 66, to col. 4, line 8). Due to the multicasting, it is not necessary to mix the data streams of the conference participants and to distribute the mixed data streams to the conference participants. Even though a mixing of data streams in the received end devices does take place in order to output the mixing result to the respective user (col. 4, lines 10 to 14), but the data stream starting from the respective end device itself is not mixed thereto and the data stream mixtures are not transmitted to the other end devices. In this embodiment, because a distribution of mixed data streams is not necessary, a mixer for mixing the data streams starting from the conference participants and for distributing data stream mixtures to the conference participants cannot be suggested by this MC-based embodiment variant.

In the MCU-based embodiment variant according to Fig. 2B, the media streams starting from the conference participants are transmitted to an MP, which is disposed in the MCU, and the MP

centrally mixes the media data streams. Col. 4, lines 18 to 21 in combination with Fig. 2B show that the mixing and distribution of data streams takes place in the MP and thus outside of the end device. An integration of an MP into an end device is not suggested, because col. 3, lines 28 to 34, teach an MCU containing an MP as a standalone unit outside of the end device.

In item 5 of the Office action, the Examiner rejected claims 2 and 4 as being unpatentable over Kumar and Ahuja et al. under 35 U.S.C. § 103(a). Claims 2 and 4 ultimately depend on claims 1 and 3, respectively. The patentability of these claims depends on the arguments relating to claims 1 and 3, discussed above.

Conclusion:

The honorable Board is therefore respectfully urged to reverse the final rejection of the Primary Examiner.

Respectfully submitted,

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Appendix - Appealed Claims:

1. A multimedia terminal for telephony based on ITU-T Standard H.323 for setting up a multipoint connection to a plurality of terminals, comprising:

a controller for processing signaling information for a point-to-multipoint connection between the multimedia terminal and a plurality of terminals; and

a mixer, connected to said controller, for mixing datastreams originating at the multimedia terminal and at the plurality of terminals and for providing datastream mixtures to the plurality of terminals.

2. The multimedia terminal according to claim 1, wherein said mixer provides to each respective one of the plurality of terminals a respective one of the datastream mixtures including a mixture of the datastreams originating at the multimedia terminal and at a respective other one of the plurality of terminals.

3. A multimedia terminal, comprising:

a function module for setting up a multipoint connection to a first terminal and to a second terminal based on ITU-T Standard H.323;

a controller, connected to said function module, for processing signaling information for a point-to-multipoint connection between the multimedia terminal, the first terminal, and the second terminal; and

a mixer, connected to said controller, for mixing datastreams originating at the multimedia terminal, at the first terminal, and at the second terminal and for providing datastream mixtures to the first terminal and to the second terminal.

4. The multimedia terminal according to claim 3, wherein said mixer provides to the first terminal a respective one of the datastream mixtures including a mixture of the datastreams originating at the multimedia terminal and at the second terminal.